

## **Approaches to Tsunami Mitigation and Prevention: Explaining Architectural Strategies for Reducing Urban Risk**

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**Abstract :** Tsunami, as a natural disaster, is composed of waves that are usually caused by severe movements at the sea floor. Although tsunami and its consequences cannot be prevented in any way, by examining past tsunamis and extracting key points on how to deal with this incident and learning from it, a positive step can be taken to reduce the vulnerability of human settlements and reduce the risk of this phenomenon in architecture and urbanism. The method is reviewing and has examined the documents written and valid internet sites related to managing and reducing the vulnerability of human settlements in face of tsunami. This paper has explored the tsunamis in Indonesia (2004), Sri Lanka (2004) and Japan (2011), and of the study objectives has been understanding how they dealt with tsunami and extracting key points, and the lessons from them in terms of reduction of vulnerability of human settlements in dealing with the tsunami. Finally, strategies to prevent and reduce the vulnerability of communities at risk of tsunamis have been offered in terms of architecture and urban planning. According to what is obtained from the study of the recent tsunamis, the authorities' quality of dealing with them, how to manage the crisis and the manner of their construction, it can be concluded that to reduce the vulnerability of human settlements against tsunami, there are generally four ways that are: 1-Construction of tall buildings with opening on the first floor so that water can flow easily under and the direction of the building should be in a way that water passes easily from the side. 2- The construction of multi-purpose centers, which could be used as vertical evacuation during accidents. 3- Constructing buildings in core forms with diagonal orientation of the coastline, 4- Building physical barriers (natural and synthetic) such as water dams, mounds of earth, sea walls and creating forests

**Keywords :** tsunami, architecture, reducing vulnerability, human settlements, urbanism

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